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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/976,788
Filing Date: October 12, 2001
Appellant(s): BAEUERLE, PETER

Richard L. Mayer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 21, 2005.

(1)   Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2)   Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly

affect or be directly affected by or have a bearing on the decision in the pending appeal

is contained in the brief.

(3)   Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4)   Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection

contained in the brief is correct.

(5)   Summary of Invention

The summary of invention contained in the brief is correct.

(6)   Issues

The appellant's statement of the issues in the brief is correct.

(7)   Grouping of Claims

The rejection of claims 1 through 31 stand or fall together because appellant's

brief does not include a statement that this grouping of claims does not stand or fall

together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8)   Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9)   Prior Art of Record

5,029,087   COWAN ET AL.   7-1991

(10)   Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 through 31 are rejected under 35 U.S.C. 102(b). This rejection is set

forth in a prior Office Action, mailed on October 20, 2004.

(11)   Response to Argument

The Appellant argues that Cowan et al. does not disclose adjusting a setpoint

value taking into account the input torque currently applied to the torque converter. On

lines 5-11, on column 4, Cowan et al. disclose taking into account the input torque

currently applied to the torque converter. The phrase "taking into account" is very

general. With Cowan et al., when adjusting the desired slip to absorb torque changes

they are taking into account the input torque.

Appellant seems to have given the limitation of "taking into account the input

torque currently applied to the torque converter" a much more restricted interpretation

than what is warranted. Appellant's argument seems to suggest that by "taking into

account the input torque" when selecting the setpoint value, the setpoint value must be

calculated by using a measured value of the input torque. This, however, is not what is

claimed. The phrase "taking into account" is much broader than "calculated by".

Cowan et al. disclose a control system for a bypass clutch of a torque converter.

The system determines a desired slip, or setpoint value, depending "*upon information*

from a throttle position sensor, an engine speed sensor, a gear

shift selector sensor, oil temperature sensor and transmission input shaft

speed sensor whereby the bypass clutch capacity is adjusted to a value that is

*necessary **to achieve the desired slip at any given torque.** Torque transients*

caused by engine operating variables, transmission ratio shifting or throttle

movements are then absorbed by momentary periods of increased slip as the

bypass clutch solenoid output signal is adjusted during each background control

*loop of the processor in **accordance with the new torque condition".** See col. 3, line*

67, through col. 4, line 11. In a torque converter with a bypass clutch, also commonly

called a lockup clutch, the slip of the bypass clutch is going to be directly dependant on

the input torque of the converter, i.e. engine output torque. Cowan et al. recognize this

by using both the throttle position sensor of the engine and the engine speed sensor as

part of the information used to determine the desired slip since these two numbers are

indicators of engine output torque, as noted in the quoted section above. In stating,

"the bypass clutch solenoid output signal is adjusted...in accordance with the new

torque condition", Cowan et al. clearly reads on the claimed invention since the bypass

clutch solenoid output signal is determined from the desired slip. See col. 14, lines 26-

27. The adjusting of the bypass solenoid output signal is a direct result of a change in

the desired slip value and as shown above this is in accordance with (taking into

account) the new torque condition.

The question may arise of whether the new torque condition includes the input

torque of the torque converter. It does, and this can be seen by the description of the

torque transient resulting in the new torque condition. Cowan et al. disclose the torque

transients as being a result of engine operating variables (i.e. throttle position, engine

speed). See col. 4, lines 5-6. As discussed above, the engine output torque is the

input torque of the torque converter so any engine torque transient is going to change the input torque of the torque converter and create the new torque condition.

In Appellant's arguments on page 5, first paragraph, of the brief, it is stated that instead of reading on the invention Cowen et al. calculates a new setpoint value based on a desired slip less a computed actual slip, neither of which take into account the input torque currently applied to the torque converter. In the rejection, the setpoint value was equated with the desired slip not the error value that Appellant equates with the setpoint value. Appellant further states that Cowen et al state the desired slip depends on information from a throttle position sensor, engine speed sensor, etc. As already discussed above, throttle position and engine speed are the engine operating variables that Cowen et al. discloses as creating the new torque condition. Appellant then states "Cowen et al. state that rapid torque changes result in 'eventual compensation of duty cYcle [sic],' i.e. over successive loops, but that system 'will allow rapid torque changes,' i.e. without generating a new setpoint value, 'to be absorbed by short period of increased slip, or decreased slip,' i.e. within a given closing interval." Appellant's assertion in this statement that rapid torque changes will not be accompanied by a new setpoint value when there is increased of decreased slip is incorrect. The desired slip is calculated based on actual slip. See col. 13, lines 9-10. So any torque change that results in a change in actual slip is going to change the value of desired slip. Or to put it simply, the desired slip is changed based on actual slip taking into account torque changes. These torque changes are disclosed to

include torque changes as a result of engine operating variable changes that directly change input torque to the torque converter.

In Appellant's arguments on last paragraph of page 5, state, "Cowan et al. do not adjust the actual slip to absorb torque changes, rather it is the torque transients that cause a change in slip." It was not suggested in any office action that the actual slip is directly controlled to absorb torque changes. However, Appellant's statement does make a clear admission that torque transients account for the change in actual slip. The desired slip, or setpoint value is calculated using the actual slip. See col. 13, lines 9-10. This equates to taking into account the input torque of the torque converter when adjusting the setpoint value. The Appellant finishes the paragraph off by stating that desired slip depends upon information from a throttle position sensor, engine speed sensor, etc, not torque changes. This final statement ignores that the desired slip is also calculated based on actual slip or that throttle position and engine speed are directly related to engine output torque which is the same as torque converter input torque.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,
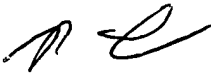
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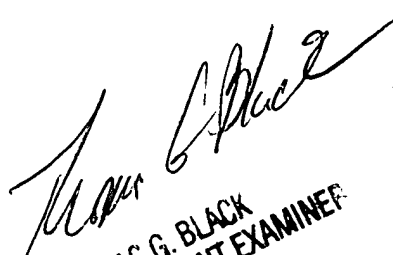
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